EXECUTIVE SUMMARY

A Phase I Environmental Site Assessment, conducted by Environmental Systems and Services, Inc., for Bulova Technologies' Queen Street site identified two major environmental concerns.

1. Are the soils under the building contaminated from the site's past material handling practices?

2. Was there a release of fuel oil associated with the past use of the abandoned in-place 2,000 gallon fuel oil underground storage tank (UST)?

The investigation into these environmental concerns consisted of three major tasks. The first task closed the 2,000 gallon abandoned in place UST in accordance with Pennsylvania's Department of Environmental Protection (PaDEP) protocols. PaDEP's protocols require the sampling of soils from underneath the tank system components as part of the closure. The second task performed a passive soil vapor survey of the building's first floor. Sample locations for the passive soil vapor survey were selected to address areas of the first floor where solvents were either used or stored. The final task collected soil samples from the areas in which the soil vapor survey indicated the potential presence of contaminants. A table summarizing the results of these three tasks is presented as Table 2 located in Section 3 on Page 8 of this report.

Conclusions

Based on the results and observations made during the UST closure and the soil sampling, site soils showed very minimal indication of contamination by volatile organic compounds.

Underground Storage Tank Closure

Based on the samples collected from under the tank analyzed for total petroleum hydrocarbons -- diesel range organics (TPH-DRO), and the observed interior condition of the tank and the tank fill pipe, there is no indication of a release of fuel oil from the UST system. A soil sample (610 mg/kg) taken from the just below the outside fill port (approximately two feet below the sidewalk surface) was above Pennsylvania's action level (500 mg/kg), but most likely represents contamination resulting from either street run-on or small amounts of oil spilled during fueling operation. A second composite sample taken between three and six feet returned a TPH-DRO level of 27 mg/kg, confirming that whatever caused the previously detected contamination affected a de minimus quantity of soil.

Contamination Resulting From Past Material Handeling Practises.

Both the passive soil vapor survey and the discrete soil sample analysis detected low levels of solvent related compounds. Contaminants detected by the passive soil vapor survey were subsequently found to bear no correlation to those found during quantitative analysis of site soil chemistry of the surrounding soils. Of the compounds detected in the passive soil survey, only TCE was detected in the discrete soil samples (and in one location only) while the BTEX, PCE and 1,1,1-TCA compounds detected by the passive soil vapor survey were not detected in any of the soil samples.

Contaminants found in site soil vapor adsorption modules (Gore-Sorber) appear to have been introduced from some source other than site soils. Possible sources include laboratory contamination, analytical error, or introduction of contaminants from the soil atmosphere within the building's subslab bedding (i.e., vapors present within the gravel bedding that underlies the concrete). In the latter case, the presence of contaminants in the Gore-Sorber modules (while being absent in the surrounding site soils) is a function of the higher adsorption capacity of the Gore-Sorber organic carbon than that of site soils. This relationship is, in turn, a function of the relative "strength" of the partition coefficients for the soil, vapor, and organic carbon phases in which the contaminants can be found. It is also important to note the Gore-Sorber sensitivity range is in ug/kg.

Of the regulated compounds for which quantitative laboratory analyses were conducted, only TCE was conclusively detected, and then only at low levels (19 ug/kg) and at a single location. This TCE level is above the State Default Background Level of 5 ug/kg but considerably below the State Heath Guidance Level of 2,000 ug/kg. Because of the low levels measured and its isolated occurrence, the presence of TCE at a single location does not indicate a significant potential impact to the surrounding environment. Further, the overall absence of contaminants in site soils as indicated by both semiquantitative and quantitative analyses indicates the absence of significant environmental impacts due to activities in the building.

Finally, a possibility exists that a variety of volatile compounds may be present in the buildings subslab atmosphere. This possibility should not pose a threat to building occupants unless the gravel subslab is directly vented to an enclosed, continuously occupied space within the buildings work areas.

Recommendations

Overall no further investigation is indicated, due to the very low levels of contamination detected. However several recommendations are made to reduce the risk of soils contamination resulting from the use and storage of hazardous materials.

Material Handling Procedures

Material handling procedures and work areas using hazardous chemicals should be reviewed periodically to verify that systems and procedures are in place to prevent the release of chemicals into the building's atmosphere or to the soils beneath the building.

Solvent Still

The floor area around the still should be cleaned and sealed with an impervious sealer to eliminate a potential source of contaminant transport to the soils. Additionally, a drip pan should be installed to capture drips and small spills resulting from the filling and decanting of the still.

Flammable Solvent Room

The floor in these rooms should be cleaned and sealed to prevent contamination of the soils from spills.